VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
SOUTH CENTRAL REGIONAL OFFICE

FACT SHEET
FOR PROPOSED PERMITTING ACTION
UNDER 9 VAC 5 Chapter 80 Article 1 (TITLE V-CLEAN AIR ACT)

APPLICANT:

VA-30106 AIRS ID 51-143-00013
The Goodyear Tire and Rubber Company
1901 Goodyear Boulevard
Danville, VA 24541

FACILITY LOCATION:

1901 Goodyear Boulevard, Danville
UTM Coordinates are ZONE: 17 EASTING: 251.3 km NORTHING: 4073.4 km

FACILITY DESCRIPTION:

The Goodyear Tire and Rubber Company is a manufacturer of truck and aircraft tires, covered by Standard Industrial Classification (SIC) Code 3011. The tire manufacturing process begins with mixing of raw materials (including synthetic and natural rubber, carbon black, sulfur, accelerators, and process oils). Mixed rubber is then extruded (formed into predetermined shapes such as tread, or sidewall) or calendered (applied to a substrate to form specific gauge rubber sheets). Individual tire components are transferred to tire building stations where they are assembled into tires. Depending on the tackiness of the rubber prior to assembly and the type of tire being constructed, solvent may be applied at the tire building stations. Assembled ("green") tires are then cured within steam-heated curing presses. Depending on the tire, balance pads may be applied to the inside of the tire.

Goodyear is a Title V major source of SO_2, NO_x, PM, VOC, total HAPs, hexane, and MIBK. The source is located in an attainment area for all pollutants. Goodyear's Danville facility generally operates (24) hours per day, seven (7) days per week, with several plant shutdowns for planned maintenance activities.

COMPLIANCE STATUS:

The source was last inspected on September 5, 2001, and was found to be in compliance. The required annual emission statement and certification was submitted by Goodyear on May 24, 2002.

EMISSIONS SUMMARY:

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]	
CRITERIA POLLUTANTS	2001 ACTUAL EMISSIONS
Particulate Matter (PM10)	69.0
Nitrogen Oxides (NOx)	67.5
Sulfur Dioxide (SO2)	115.1
Volatile Organic Compounds (VOC)	442.3
PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR] (Cont'd)	
HAZARDOUS AIR POLLUTANTS	2001 ACTUAL EMISSIONS
Total HAPs	70.4
Hexane	20.1
MIBK	1.3

TITLE V PROGRAM APPLICABILITY BASIS:

This facility has the potential to emit more than 100 tons per year of SO_2 , NO_x, VOC, and PM. The facility also has potential to emit more than 10 tons per year each of hexane and MIBK, and more than 25 tons per year of total HAPs. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant and 25 tons per year of HAPs, Goodyear Tire and Rubber Company is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 9 VAC 5 Chapter 80 Article 1.

Applicable Regulations/Existing Permits

There is a New Source Performance Standard (NSPS), 40 CFR 60, Subpart BBB, for rubber tire manufacturing, but that standard does not apply. NSPS Subpart BBB applies to green tire spraying machines, tread end cementers, sidewall cementers, and undertread cementers that have been installed, modified, or reconstructed after January 20, 1983. Furthermore, the standard only applies to equipment manufacturing tires with a bead diameter of less than or equal to 19.7 inches. Goodyear Danville does not operate any sidewall or undertread cementers. Additionally, all of the truck tires manufactured at Goodyear Danville have a bead diameter greater than 19.7 inches. The Goodyear Danville facility does have three green tire spray booths and two tread end cementing units used in manufacturing aircraft tires with a bead diameter less than 19.7 inches, but this equipment was installed prior to NSPS applicability and has not been modified. Accordingly, no equipment at the facility is subject to Subpart BBB.

The permit shield includes Subpart BBB as a requirement which has been explicitly deemed to be not applicable to this facility. Other NSPS which have been determined not to apply are D, Db, Dc, Kb (except for recordkeeping on Tank 010), and VVV.

Much of the equipment at the Goodyear Danville plant is subject to existing source regulations, but there are two valid permits for the facility. The most recent is a PSD permit issued July 28, 2000 and amended June 28 and September 4, 2002, for a formulation change and installation of new equipment. Additionally, the facility has a modified source permit dated 5/28/81 (as amended 4/11/89 and 9/6/00) to allow burning used oil in their Keeler Boiler (EU038).

Nine storage tanks (T001-T009) were reviewed for applicability of Section 112 (r) of the 1990 CAAA (accidental release of HAPs). Although solvent stored in some of the tanks does contain pollutants subject to 112 (r), none of those pollutants are stored at a concentration above the 112 (r) threshold. Accordingly, no units have been found to be subject to the provisions of 112 (r).

The facility is subject to the Rubber Tire Manufacturing MACT (40 CFR 63 Subpart XXXX) which was promulgated July 9, 2002.

Periodic Monitoring

B&W Boilers (EU035-EU037)

Goodyear has three identical B&W boilers, each with rated heat input capacity of 123 MMBtu/hr, that were installed prior to 1972 and that have not been modified. These boilers are allowed to burn natural gas and fuel oil. Existing source regulations for particulate, SO2, and opacity apply. When the boilers are burning gas, there is little if any observed opacity and maximum predicted emissions are well below ($\leq$3% of) allowable emissions.

Because there is no limit on allowable sulfur content for these boilers, predicted emissions during oil burning were calculated using 2.5% sulfur oil. At this sulfur content, predicted emissions are 73% of allowable emissions for particulate and equal to allowable emissions for SO2. While it is noted that oil has historically been burned for only a small percentage of the time (primarily when there is gas curtailment) there is no restriction on oil usage.

Since the allowable emission rate for SO2 is based on a mass balance, assuming all sulfur is emitted, Goodyear cannot exceed their allowable SO2 emission rate. During a typical year when little fuel oil is burned, emission testing for particulate would be overly burdensome as well as difficult to schedule. If, however, Goodyear were to utilize oil as a primary fuel, periodic testing for particulate would be reasonable. Accordingly, the Title V permit requires Goodyear to test PM emissions from one of these boilers while burning oil during any permit term in which there is more than 10 million gallons of oil burned throughout a 12 month period (10 million gallons per year represents 50% utilization of oil).

Periodic monitoring requirements for opacity from the boilers are based on observation of the presence or absence of visible emissions. In the event visible emissions are observed, corrective action is required. If corrective actions do not result in the absence of visible emissions, VEE's are required to demonstrate compliance with the applicable opacity limit.

Keeler Boiler (EU038)

In addition to the B&W boilers, Goodyear has a Keeler boiler with rated heat input capacity of 47.5 MMBtu/hr. In accordance with a permit issued May 28, 1981 (as amended 4/11/89 and 9/6/00), the boiler is allowed to burn natural gas, fuel oil, and used oil. Although the permit limits SO2 and NOx emissions to below PSD significance levels, this limit was not supported by a fuel throughput limit in the permit. The permit does contain a discussion of the fact that maximum allowed fuel throughput will depend upon sulfur content of the fuel oil, so that the permit limit of 39.7 tons per year is not exceeded. In the Title V permit, this discussion is replaced with a formula-based limit on fuel throughput.

Historically, Goodyear has fired only gas in this boiler. If gas is burned at full utilization (maximum throughput, 8760 hours per year), SO2 emissions are minimal and NOx emissions are predicted to be 52% of the allowable limit. The worst-case scenario would be for Goodyear to burn oil with the maximum allowed sulfur content (2.36%, which was established as state BACT in the 1981 permit), which could occur less than 700 hours per year, and gas during the remaining hours. In that case, NOx emissions would be 63% of the allowable emission rate and SO2 emissions would equal the permit limit. In practice, Goodyear has never fired oil in this boiler. Since SO2 emissions are calculated using the assumption that 100% of fuel sulfur is emitted, and since NOx emissions are expected to be $\leq$ 63% of the allowable even under worst-case conditions, recordkeeping is considered sufficient periodic monitoring for demonstrating compliance with emission limits for this boiler.

The Keeler boiler can exhaust emissions through stacks shared with the B&W boilers, discussed above. Periodic monitoring requirements for opacity are based on observation of the presence or absence of visible emissions. In the event visible emissions are observed, corrective action is required. If corrective actions do not result in the absence of visible emissions, VEE's are required to demonstrate compliance with the applicable opacity limit.

Mixing Equipment

Each mixing line consists of a Banbury mixer and a number of other components which serve similar functions but which may vary from line to line. The Banbury mixers are controlled by fabric filters, except for take-away mills on Banbury mixer Nos. 7, 8, and 9, which are controlled by scrubbers. Table II.A. of the permit contains a listing of approved components and associated control devices for each mixing line.

The control devices from mixers (BBDC 1 - BBDC9, DSDC1, DSDC2, BB7SCR, BB8SCR, and BB9SCR) are subject to a 5% opacity limit in accordance with Condition 16 of the permit dated September 4, 2002. Other emission points associated with the mixing lines are subject to 9 VAC 5-50-80, which restricts opacity to 20% except for one six-minute period in any one hour in which visible emissions shall not to exceed 30% opacity.

Periodic monitoring requirements for opacity from the mixers are based on observation of the presence or absence of visible emissions. In the event visible emissions are observed, corrective action is required. If corrective actions do not result in the absence of visible emissions, VEE's are required to demonstrate compliance with the applicable opacity limit.

In addition to opacity monitoring, each permit term stack testing is required for one fabric filter associated with a Banbury mixer (BBDC1-BBDC9), to demonstrate compliance with the 0.01 grain/dscf limit established as BACT for these units. This frequency is deemed sufficient for the fabric filters on the following basis:

a) This emission limit can generally be met when fabric filters are operating properly. The fabric filters will also be monitored for opacity, and absence of visible emissions from a fabric filter is an indication that the filter is operating as designed.

b) A history of no visible emissions from the Banbury mixers supports the belief that these emission sources are in compliance with applicable particulate limits.

c) Estimated particulate emissions rates are generally very low (< 2 lb/hr for each mixer, operating at maximum capacity).

Opacity monitoring is deemed sufficient for the scrubbers because particulate emissions from these units are expected to be minimal. The rubber is fully mixed at the point of discharge onto the take-away mills. There is a potential for condensible particulate at this point in the process since the rubber is still hot enough for some components to volatilize off. However, emission calculations using RMA emission factors for these mixers indicate that total PM from each of the mixers is roughly 5 tons per year, with most of this expected to be emitted through the fabric filters. Further, there is no history of visible emissions from the scrubbers.

Extruding and Calendering

Calendering and extruding operations warm the rubber sufficiently to cause emissions of VOC, a portion of which is HAP. These emissions are fugitive and are not subject to any federally enforceable standards. However, emissions from these operations are subject to reporting and fee requirements. Accordingly, recordkeeping only is required.

Tire Building
The tire building process uses solvents and cements for adhering components into an assembled but uncured ("green") tire. At Goodyear's Danville facility, these emissions constitute most of the HAP emissions regulated by the Rubber Tire Manufacturing MACT. Other than MACT requirements, there are no federally enforceable standards applicable to Goodyear's tire building operations. MACT requirements are contained in Section IX of the permit.

Curing and Finishing
Emissions from curing are primarily ethanol emissions, which are calculated based on mass balance. None of the curing presses are directly vented, though numerous exhaust fans in the roof provide room ventilation. Previous permitting determinations have assumed negligible particulate emissions from curing because there is no perceptible odor or haze from the curing presses. A five percent opacity limit on exhaust stacks associated with new curing presses was included in a previous permit to support this determination. Since there are no direct vents or partitions separating sections of the curing area, this limit effectively applies to the entire curing area. Periodic monitoring requirements for the curing presses are based on observation of the presence or absence of visible emissions. In the event visible emissions are observed, corrective action is required. If corrective actions do not result in the absence of visible emissions, VEE's are required to demonstrate compliance with the applicable opacity limit.

Facility Wide Conditions
The permit contains plantwide restrictions for usage of solvent and coupling agent. Compliance with these limits is demonstrated through recordkeeping.

Supporting Equipment (Cherine Storage Tank)
This tank (T 010) is subject to recordkeeping requirements only under NSPS Subpart Kb. Specifically, Goodyear is required to keep records of the capacity and dimension of the tank for the life of the tank. This requirement has been incorporated into the permit. No additional monitoring is required.

MACT REQUIREMENTS:

The Rubber Tire Manufacturing MACT (40 CFR 63 Subpart XXXX) was promulgated on July 9, 2002. The MACT applies to each existing, new, or reconstructed affected source at the facility. Affected sources include rubber processing, tire production, tire cord production, and puncture sealant application. The Goodyear Danville facility does not produce tire cord nor apply puncture sealant, so only the rubber processing and tire production sections of the MACT apply. Further, there are no emission limitations or other requirements for the rubber processing affected source.

Requirements for tire production affected sources are related to solvent and cement usage. There are several compliance options; affected sources can demonstrate compliance with a purchase alternative, a monthly average alternative without using an add-on control device, or a monthly average alternative using an add-on control device.

Goodyear Danville is currently unsure how the plant will achieve compliance with the MACT standard. There are no formulations available at this time that would allow compliance without installation of add-on controls, but retrofitting the Danville facility with controls is not considered a feasible alternative. Vendors are continuing to work on reformulation of solvents and adhesives; however, progress has been slowed due to concerns with tire safety. The Rubber Manufacturers' Association has filed an appeal with EPA to review the MACT standard.[1]

Title V Regulations require that all federally enforceable applicable requirements, including those with future compliance dates, be included in the Title V permit. One benefit of incorporating specific requirements is to clarify which provisions of the standard are applicable. However, there is questionable benefit to including detailed requirements for multiple compliance options before there is a clear pathway toward compliance. Accordingly, some applicable sections of the Rubber Tire Manufacturing MACT have been included in the permit by reference only.

In incorporating the MACT requirements, the following strategy was used:

- Only limits and requirements for tire production affected sources were included, since there is no tire cord production or puncture sealant application at the facility.
- Based on Goodyear's indication that installation of controls is not feasible, only requirements for alternatives without use of add-on controls were included. Condition IX.A.3. of the permit clarifies that use of an add-on control device remains an allowable alternative and that additional requirements apply should Goodyear elect to use this alternative.
- Where requirements are lengthy and dependent upon the compliance alternative selected the requirement was included by reference to the applicable section of the MACT.

[1] Confirmed by Anthony Wayne, USEPA, on July 23, 2002.

LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the Commonwealth of Virginia Federal Operating Permit Regulations for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.

b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, Article 8 (9 VAC 5-80-1700 et seq.) of this part or 9 VAC 5-80-30 or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of these regulations not included in the definition of applicable requirement.

c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under ' 111, 112 or 129 of the federal Clean Air Act.

d. Any requirement concerning accident prevention under ' 112(r)(7) of the federal Clean Air Act.

e. Any compliance monitoring requirements established pursuant to either ' 504(b) or ' 114(a)(3) of the federal Clean Air Act or these regulations.

f. Any standard or other requirement for consumer and commercial products under ' 183(e) of the federal Clean Air Act.

g. Any standard or other requirement for tank vessels under ' 183(f) of the federal Clean Air Act.

h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.

i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator has determined that such requirements need not be contained in a permit issued under this article.

j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et seq.) of this part.

k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.

l. Any standard or other requirement governing solid waste incineration under ' 129 of the Clean Air Act.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

REQUEST FOR VARIANCES OR ALTERNATIVES:

None

COMMENT PERIOD:

The public notice appeared in the **** on [date].
Beginning Date: ***
Ending Date: *****
All written comments should be addressed to the following individual and office:

Margaret Key
Senior Environmental Engineer
Department of Environmental Quality
South Central Regional Office
7705 Timberlake Road
Lynchburg, VA 24502
Phone: (434) 582-5120 Fax: (434) 582-5125

PROCEDURE FOR REQUESTING PUBLIC HEARING:

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.